Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

Claims 1-9 (Canceled).

10.   (Currently Amended) A communication device, comprising:

at least one communication interface;

a communication interface circuit coupled to the at least one communication interface,
wherein the communication interface circuit communicates using a communication
protocol, wherein the communication protocol contains an embedded operation
channel (EOC) and a hop count;

wherein the communication interface circuit is adapted to send a discovery query and to
receive discovery response messages over the EOC of the at least one communication
interface;

wherein the communication interface circuit is adapted to compare a hop count from a
discovery response message from a second communication device to a total number
of discovery response messages received from the second communication device and
any intervening communication devices; and ~~The communication device of claim 1,~~

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wherein the communication interface circuit is adapted to resend the discovery query if

the total number of discovery response messages received does not match the hop

count from the discovery response message from the second communication device.

Claim 11 (Canceled).

12. (Currently Amended) A communication device, comprising:

at least one communication interface;

a communication interface circuit coupled to the at least one communication interface,

wherein the communication interface circuit communicates using a communication

protocol, wherein the communication protocol contains an embedded operation

channel (EOC) and a hop count;

wherein the communication interface circuit is adapted to send a discovery query and to

receive discovery response messages over the EOC of the at least one communication

interface;

wherein the communication interface circuit is adapted to compare a hop count from a

discovery response message from a second communication device to a total number

of discovery response messages received from the second communication device and

any intervening communication devices; and The communication device of claim 1,

wherein the communication interface circuit is adapted to resend the discovery query if

the number of received discovery response messages does not match the hop count

from the discovery response message from the second communication device after a

selected waiting period from the time the discovery response message from the

second communication device was received.

Claims 13-22 (Canceled).

23.   (Currently Amended) A communication system, comprising:

a communication link;

a plurality of communication devices coupled to the communication link, wherein at least

two communication devices of the plurality of communication devices are terminal

communication devices, and wherein at least one of the plurality of communication

devices comprises:

at least one communication interface coupled to the communication link;

a communication interface circuit coupled to the at least one communication

interface, wherein the at least one communication interface circuit communicates

using a communication protocol, wherein the communication protocol contains an

embedded operation channel (EOC) and a hop count;

wherein the communication interface circuit is adapted to send a discovery query to

the plurality of communication devices coupled to the communication link and

receive discovery response messages over the EOC from the plurality of

communication devices;

wherein the communication interface circuit is adapted to compare a hop count from

the discovery response message from one of the at least two terminal

communication devices coupled to the communication link to a total number of

discovery response messages received from the one of the at least two terminal

communication devices and any intervening communication devices of the

plurality of communication devices; and ~~The communication system of claim 13,~~

wherein the communication interface circuit of the at least one communication device

is adapted to resend the discovery query if the number of received discovery

response messages does not match the hop count from the discovery response

message from one of the at least two terminal communication devices of the

communication system.

Claim 24 (Canceled).

25.   (Currently Amended) A communication system, comprising:

a communication link;

a plurality of communication devices coupled to the communication link, wherein at least

two communication devices of the plurality of communication devices are terminal

communication devices, and wherein at least one of the plurality of communication

devices comprises:

at least one communication interface coupled to the communication link;

a communication interface circuit coupled to the at least one communication

interface, wherein the at least one communication interface circuit communicates

using a communication protocol, wherein the communication protocol contains an

embedded operation channel (EOC) and a hop count;

wherein the communication interface circuit is adapted to send a discovery query to

the plurality of communication devices coupled to the communication link and

receive discovery response messages over the EOC from the plurality of

communication devices;

wherein the communication interface circuit is adapted to compare a hop count from

the discovery response message from one of the at least two terminal

communication devices coupled to the communication link to a total number of

discovery response messages received from the one of the at least two terminal

communication devices and any intervening communication devices of the

plurality of communication devices; and ~~The communication system of claim 13,~~

wherein the communication interface circuit of the at least one communication device

is adapted to resend the discovery query when the number of received discovery

response messages does not match the hop count after a selected waiting period

from the time the discovery response message from one of the at least two

terminal communication devices was received.

Claims 26-32 (Canceled)

33.   (Currently Amended) A High-speed Digital Subscriber Line (HDSL) communication

device, comprising:

at least one HDSL communication interface;

an HDSL communication circuit coupled to the at least one HDSL communication

interface, wherein the HDSL communication circuit communicates using HDSL

communication protocol containing an embedded operation channel (EOC) and a hop

count;

wherein the HDSL communication circuit is adapted to send an HDSL discovery query

and to receive HDSL discovery response messages over the EOC through the at least

one HDSL communication interface;

wherein the HDSL communication circuit is adapted to compare a hop count from an

HDSL discovery response message from a second HDSL communication device to a

total number of HDSL discovery response messages; and ~~The HDSL communication~~

~~device of claim 26;~~

wherein the HDSL communication circuit is adapted to resend the discovery query when

the total number of discovery response messages received does not match the hop

count from the discovery response message from the second HDSL communication

device.

Claims 34 – 37 (Canceled).

38.   (Currently Amended) A High-speed Digital Subscriber Line (HDSL) communication

        system, comprising:

        an HDSL communication link; and

        a plurality of HDSL communication devices coupled to the HDSL communication link,

               wherein at least two HDSL communication devices of the plurality of HDSL

               communication devices are terminal HDSL communication devices, and wherein at

               least one of the plurality of HDSL communication devices comprises:

               at least one HDSL communication interface coupled to the HDSL communication

                      link;

               an HDSL communication interface circuit coupled to the at least one HDSL

                      communication interface, wherein the at least one HDSL communication interface

                      circuit communicates using an HDSL communication protocol, wherein the

                      HDSL communication protocol contains an embedded operation channel (EOC)

                      and a hop count;

               wherein the HDSL communication interface circuit is adapted to send a discovery

                      query to the plurality of HDSL communication devices coupled to the HDSL

                      communication link and receive discovery response messages over the EOC from

                      the plurality of HDSL communication devices;

               wherein the HDSL communication interface circuit is adapted to compare a hop count

                      from the discovery response message from one of the at least two terminal HDSL

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communication devices coupled to the HDSL communication link to a total

number of discovery response messages received from the one of the at least two

terminal HDSL communication devices and any intervening HDSL

communication devices of the plurality of HDSL communication devices; and ~~The~~

~~HDSL communication system of claim 35,~~

wherein the HDSL communication interface circuit of the at least one HDSL

communication device is adapted to resend the discovery query if the number of

received discovery response messages does not match the hop count from the

discovery response message from one of the at least two terminal HDSL

communication devices of the HDSL communication system.

Claims 39-45 (Canceled).

46.   (Currently Amended) A method of operating a communication device, comprising:

sending a discovery query on an embedded operation channel (EOC);

receiving discovery response messages from at least one terminal communication device

and any intervening communication devices;

extracting a hop count from a discovery response message from the terminal

communication device;

comparing a total number of discovery response messages received from the terminal

communication device and any intervening communication devices to a hop count of

the discovery response message from the terminal communication device to

determine if discovery is complete; and ~~The method of claim 40, further comprising:~~

resending the discovery query when the number of received discovery response messages

does not match the hop count of the discovery response message from the terminal

communication device.

Claim 47 (Canceled).

48.   (Currently Amended) A method of operating a communication device, comprising:

sending a discovery query on an embedded operation channel (EOC);

receiving discovery response messages from at least one terminal communication device

and any intervening communication devices;

extracting a hop count from a discovery response message from the terminal

communication device;

comparing a total number of discovery response messages received from the terminal

communication device and any intervening communication devices to a hop count of

the discovery response message from the terminal communication device to

determine if discovery is complete; and ~~The method of claim 40, further comprising:~~

resending the discovery query if the number of received discovery response messages

does not match the hop count of the discovery response message from the terminal

communication device after a selected waiting period from the time the discovery

response message from the terminal communication device was received.

Claims 49-53 (Canceled).

54.   (Currently Amended)_ A method of operating a communications system, comprising:

transmitting a discovery query from a first communication device on an embedded

operation channel (EOC);

receiving discovery response messages from at least one terminal communication device

and any intervening communication devices;

extracting a hop count from a discovery response from the at least one terminal

communication device;

determining if discovery is complete by comparing a total number of discovery response

messages received from the terminal communication device and any intervening

communication devices to the hop count from the discovery response message from

the at least one terminal communication device; and The method of claim 49, further

comprising:

re-transmitting a discovery query when the number of received discovery response

messages does not match the hop count from the discovery response message from

the terminal communication device.

Claim 55 (Canceled).

56.   (Currently Amended)_ A method of operating a communications system, comprising:

transmitting a discovery query from a first communication device on an embedded

operation channel (EOC);

receiving discovery response messages from at least one terminal communication device

and any intervening communication devices;

extracting a hop count from a discovery response from the at least one terminal

communication device;

determining if discovery is complete by comparing a total number of discovery response

messages received from the terminal communication device and any intervening

communication devices to the hop count from the discovery response message from

the at least one terminal communication device; and ~~The method of claim 49, further~~

~~comprising:~~

re-transmitting a discovery query when the number of received discovery response

messages does not match the hop count from the discovery response message from

the terminal communication device after a selected waiting period from the time the

discovery response message from the terminal communication device was received.

Claims 57- 59 (Canceled).